

(19) 日本国特許庁 (J P)

(12) 公 開 特 許 公 報 (A)

(11) 特許出願公開番号

特開2001-51632

(P2001-51632A)

(43) 公開日 平成13年2月23日 (2001.2.23)

(51) Int.Cl.⁷

識別記号

F I

テーマコード(参考)

G 0 9 F 13/20
7/00
7/18

G 0 9 F 13/20
7/00
7/18

D 5 C 0 9 6
A
F

審査請求 未請求 請求項の数6 O L (全 5 頁)

(21) 出願番号 特願平11-222338

(22) 出願日 平成11年8月5日 (1999.8.5)

(71) 出願人 598066444

渡辺 好彦

東京都板橋区坂下3-10-6 ラナイクラ
ルテ503号

(71) 出願人 598066455

武田 智夫

東京都新宿区矢来町128番地

(72) 発明者 渡辺 好彦

東京都板橋区坂下3-10-6 ラナイクラ
ルテ503号

(74) 代理人 100077126

弁理士 中村 盛夫 (外1名)

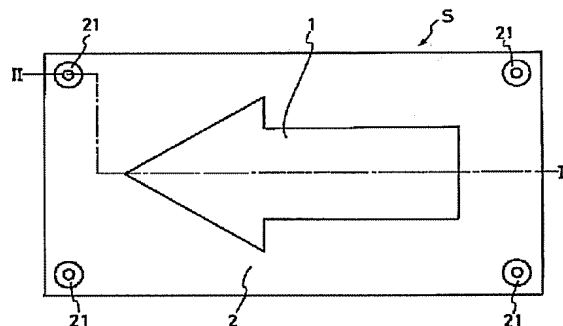
最終頁に続く

(54) 【発明の名称】 避難誘導標識

(57) 【要約】

【課題】 一般的な非常灯は、内部より照明表示するため、停電時や建物へ電線の断線で電気が供給されなくなると機能しなくなる恐れがあった。そのため、常時は消灯しておき停電等の非常時に自動的に点灯する非常時点灯方式を採用したり、非常灯の電源を別途設けたりする方法や蓄電池をもって主電源より電流が供給されなくても暫くは非常灯が点灯し続けるようにしたりする必要があった。

【解決手段】 蓄光材を重量比で10～40%含有させた透明樹脂を成型して避難の方向場所を指示するサインプレート1とし、このサインプレート1を不透明着色樹脂プレート2に嵌め込み固定した。



【特許請求の範囲】

【請求項1】 蓄光材を重量比で10～40%含有させた透明樹脂を成型して避難の方向場所を指示するサインプレートとし、このサインプレートを不透明着色樹脂プレートに嵌め込み固定したことを特徴とする避難誘導標識。

【請求項2】 蓄光材を含有させた塗料にてプラスチックシート表面に塗膜を形成した蓄光シートをサインプレート裏面に貼付することにより光輝性を増すようにしたことを特徴とする請求項1記載の避難誘導標識。

【請求項3】 不透明樹脂プレートの四隅にビスによる取付穴を穿ったことを特徴とする請求項1又は請求項2記載の避難誘導標識。

【請求項4】 不透明樹脂プレートを、周縁にビスによる取付環を一体に備える額縁状の化粧枠に取り付けるようにしたことを特徴とする請求項1又は請求項2記載の避難誘導標識。

【請求項5】 背面に粘着材を介して剥離紙を貼り、所望の箇所に貼付できるようにしたことを特徴とする請求項1または請求項2記載の避難誘導標識。

【請求項6】 蓄光材を含有させた樹脂にて成形するか、或いは蓄光材を含有させた塗料にて樹脂シート表面に塗膜を形成した蓄光シートを標識とし、片面に粘着材層を介して剥離紙にて覆ったことを特徴とする避難誘導標識。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、最近開発商品化された蓄光材であるN夜光（商標）の特徴を生かして、屋内が暗闇になった時に鮮やかな光輝性を発揮する避難誘導標識を提供しようとするものである。

【0002】

【従来の技術】日本は火災が発生し易い木造建築物が多いため、火災によって尊い人命が失われる事故が多発している。不慮の火災による犠牲者を防ぐために、不特定多数の人の集まる劇場、デパート、旅館、ホテル、地下街、地下鉄構内、病院、官庁、公共施設やビルの地階等では非常口のサインとして、出口より駆けて逃げる後ろ姿を描出したものが提案され、これをプラスチックプレートに表し内部に照明を設けた灯具として採用され非常口を示すものとして諸施設で現実に用いられている。

【0003】

【発明が解決しようとする課題】従来の非常灯は、内部より照明して表示するため、停電時や建物への引込み線や屋内配線が火災により断線し電気が供給されなくなると機能なくなる恐れがあった。これを避けるためには、常時は消灯しておき停電等の非常時に自動的に点灯する非常時点灯方式を採用したり、非常灯の電源を別途設けたりする方法や蓄電池をもって主電源より電流が供給されなくても暫くは非常灯が点灯し続けるようにした

りする必要があった。

【0004】

【課題を解決するための手段】そこで、本発明の避難誘導標識は、平常時に建物や施設内の各種照明灯よりの紫外線を吸収し蓄えて、非常時には暗闇で蛍光色を発揮して電源に頼らずに避難誘導することができるようにして火災や災難から救えるようにしたのである。

【0005】請求項1の発明に係る避難誘導標識は、蓄光材を重量比で10～40%含有させた透明樹脂を成型して避難の方向場所を指示するサインプレートとし、このサインプレートを不透明着色樹脂プレートに嵌め込み固定したことを特徴とするものである。請求項2の発明に係る避難誘導標識は、蓄光材を含有させた塗料にてプラスチックシート表面塗膜を形成した蓄光シートをサインプレート裏面に貼付することにより光輝性を増すようにしたことを特徴とするものである。請求項3の発明に係る避難誘導標識は、不透明樹脂プレートの四隅にビスによる取付穴を穿ったことを特徴とするものである。

【0006】請求項4の発明は、不透明樹脂プレートを、周縁にビスによる取付環を一体に備える額縁状の化粧枠に取り付けるようにしたものである。請求項5の発明に係る避難誘導標識は、背面に粘着材を介して剥離紙を貼り、所望の箇所に貼付できるようにしたものである。請求項6記載の発明は、蓄光シート自体を避難誘導標識とするもので、蓄光材を含有させた塗料にてプラスチックシート表面に塗膜を形成した蓄光シートを標識とし、片面に粘着材層を介して剥離紙にて覆ったものである。

【0007】

【発明の実施の形態】以下、本発明の実施の形態を示した図面に基づき、本発明の構成についてさらに詳細に説明する。図1及び図2において、蓄光材を含有させた透明樹脂を成型して避難の方向場所を指示する矢印をサインプレート1とし、このサインプレート1を外形が方形の不透明着色樹脂プレート2に嵌め込み固定して避難誘導標識Sとしたものである。サインプレート1は、透明樹脂に蓄光材を混練りしてから所望の形に成型して得るものである。サインプレート1を構成する主たる透明樹脂は、具体的にはABS樹脂、AS樹脂、アクリル樹脂、スチロール樹脂等である。蓄光材は、光エネルギーを蓄え、外部からの光を取り去った後でも自ら光を発する性質のもので、具体的には現在根本特殊化学株式会社により製造販売されているN夜光（商標）と称される蓄光材である。該会社により現在市販されているのは次の三種類、すなわち、G-300Mグリーン、BG-300Mブルー、V-300Mバイオレットであるが、サインプレート1に採用したのは、その内のG-300Mグリーン（直径10μの粒子状のパウダー）とした。なお、特殊な場所、例えば、病院内の重要施設又豪華商品の陳列場所、美術館等に用いるものとして発色する色彩

がブルーのBG-300Mブルーを用いても良い。蓄光材の含有量は重量比10%~40%の範囲であればよいが、好ましくは20%~35%であり、最も好ましいのは30%前後である。建築物の通路等は屋内照明の照度が高い値の場所では下限の10%含有で効果があるものの、10%を下回ると光輝性の効果が低くなる。40%はプラスチック成型上の技術的限界値であり、40%を越えるとプラスチックの量産化が技術的に困難で、かつ高価になり経済性に乏しくなる。図示の実施の形態では、サインプレート1の形状を太い矢印として避難経路や避難口（非常口）を指示するものとした。しかし、矢印の形状は適宜選択することができ、また、前述のように従来非常口に採用されている逃げる人を図案化した図形としてもよい。

【0008】サインプレート1を嵌め込む外形が方形をなす不透明着色樹脂プレート2の素材は、サインプレート1を構成する主たる透明樹脂と同様ABS樹脂、AS樹脂、アクリル樹脂、スチロール樹脂等の樹脂に着色材としての染料、顔料を加えて不透明樹脂とする。実施の形態では赤色に着色したものとした。しかし、色彩は適宜選択可能で、ユーザーの希望要望に沿った指定色を採用してもよい。この不透明着色樹脂プレート2は通常時にサインプレート1の存在を際立たせるにすぎず、暗闇中では色彩は確認できないからである。サインプレート1に含有させた蓄光材により、照明器具よりの紫外線を吸収して光エネルギーを蓄積して、非常時に暗闇でサインプレート1が蛍光色を発揮し、避難者に非常口への道筋を認識させて導き、一階の場合は直接外に開く非常扉や二階以上では避難階段に続く非常扉に安全に誘導案内することができるのである。

【0009】不透明着色樹脂プレート2の四隅には段付き穴21を穿ってビスにて壁面等にねじ込むことにより取り付け。サインプレート1の周縁には肉薄となる段部11を形成する一方、不透明樹脂プレート2のサインプレート1を嵌め込む抜穴の裏面側周縁には段部22を形成し、サインプレート1の周縁の段部11を、不透明着色樹脂プレートの裏側から段部22に合着させ嵌め合わせれば同じ厚みとし、かつ階段状の接合部に接着剤を塗布して一体に繋げるようにする。

【0010】これまでは避難誘導標識Sを直接壁面等にビス等で取り付けようにしたものとしたが、図3及び図4に示すように不透明着色樹脂プレート2を別途、周縁にビスによる取付環41を一体に備える額縁状の金属製の化粧枠4に取り付けるようにしてもよい。この化粧枠4は鉄製で表面をクロームメッキ処理したものとする。取付環41は一体に構成するものとしビスで壁面等に取り付ける。化粧枠4の素材は金属製に限られず、樹脂成型した枠にメッキ処理したものとしたり、木製、人工石材製、擬木製など適宜選択できる。図5に示すように、サインプレート1の蛍光色の暗闇中での明度を向上

させ、光輝性を増すように、サインプレート1の裏面に、蓄光材を含有させた塗料にてプラスチック表面塗膜を形成した蓄光シート3を貼付させるようにしてある。この蓄光シート3は、0.2~0.3mmの厚みを備えるABS樹脂、AS樹脂、アクリル樹脂、スチロール樹脂その他の樹脂を素材としてシート状に加工したものの片面に蓄光塗膜を形成してなるものである。蓄光材を含有させた塗料でシルク印刷により或いはスプレー塗装などにて蓄光塗膜を形成する。

【0011】蓄光シート3をサインプレート1裏面に貼付することにより若干コスト高となるものの光輝性を増すことで暗闇での視認性が増すことになる。図示しないが、この蓄光シート3の周縁をサインプレート1裏面より不透明着色樹脂プレート2に跨がって貼り付けることでサインプレート1の不透明着色樹脂プレート2よりの脱落を防ぐことができる。特に、火災の場合の煙、地震の場合の粉塵等で視界が悪くなっていると、光輝性を増すことで一層安全な方向への誘導が可能となる。人命がかかわることから若干の製作コスト高であっても、メンテナンスが不要でトータルとしての経済性は確保されていることになる。

【0012】避難誘導標識Sを取り付けるのにこれまではビスをねじ込むものとしたが、図6に提示するように接着剤で貼り付けるようにしてもよい。サインプレート1と不透明着色樹脂プレート2との組み合わせたものの裏面に、粘着材層5を介して剥離紙6にて覆うようにし、実際に取り付ける際に剥離紙6を外して所望の箇所に貼り合わせるようにしている。実際には、両面接着テープを片面の剥離紙を剥してサインプレート1と不透明着色樹脂プレート2の裏面に一様に或いは四隅、さらには周縁等に貼り付けてから所望の位置にもう片面の剥離紙を剥して取り付けようにしてもよい。なお、サインプレート1の裏面に蓄光シート3を貼り付けたものとして、この裏面に粘着材層5及び剥離紙6を設けるようにしてもよい。

【0013】さらに、これまでの説明では、實際上標識となる部分は剛性を備えたプレートとしてあるが、避難誘導標識Sとしては壁面等に取り付けられれば足りるので、暗闇での光輝性が十分で機能を発揮できれば、肉薄で柔軟性を備えたものとしてもよい。前述の透明樹脂に重量比で10%~40%の蓄光材を混練してシートを形成し、矢印に切断してそのまま避難誘導標識Sとしてもよい。または樹脂シートの少なくとも表面となる片面に蓄光塗膜（前述と同様シルク印刷やスプレー塗装にて）を形成して矢印などに切断して避難誘導標識Sとすることもできる。このような避難誘導標識Sは壁面等に取り付けてもほぼ面一となって突起とならず、取り付けは接着剤を裏面に塗布するか、両面接着テープなどの手段で簡単に取り付けることができることになる。

【0014】図7はホテル、ロッジ、病院等の宿泊する

10

20

30

40

50

施設での廊下の壁面に、貼り付けられた避難誘導標識Sである。この数は施設の規模などによって適宜対処することになる。なお、煙が廊下に充満して腹這いになって避難することもあるので、床面に近い位置にもある程度配置することが望ましい。図8は平面図で非常階段に誘導するように多数の避難誘導標識Sを廊下の内壁に取り付けている様子を示す。図7及び図8では図示していないが、避難誘導標識Sは廊下、通路での照明器具よりサインプレート1、蓄光シート3などに光エネルギーが蓄えられ、万一のときに避難誘導標識Sが長時間残光特性を保持し、蓄光材本来の色彩により機能を発揮することになる。図9は、非常ドアDの上部に蛍光灯等による非常灯を配置している場合に、この発明に係る避難誘導標識Sを組み合わせたもので、避難誘導標識Sは、シート状のものとすることが望ましい。また、扉のノブに向かって避難誘導標識の矢印の先を向けて速やかな避難ができるようにしたものである。図10は階段の傾斜に沿って、矢印状の避難誘導標識Sを配置したもので、これは階段の箇所を暗闇中で確認でき転落事故を防ぐ上で有効である。

【0015】

【発明の効果】請求項1の発明に係る避難誘導標識は、蓄光材を含有させた透明樹脂で避難の方向場所を指示するサインプレートとし、このサインプレートを不透明着色樹脂プレートに嵌め込み固定したもので、太陽光、室内照明、廊下の照明等で蓄積された光エネルギーが夜間の火災や地震等によって屋内、室内が暗闇となったときに、そのサイン（形態）に合わせた蛍光色が現出し、避難方向や避難口（非常口）の所在を案内できることになる。請求項2の発明に係る避難誘導標識は、サインプレート裏面に蓄光シートを貼付するようにしたので、さらに光輝性を増すようにすることで避難方向を確実に避難者に伝えることができるのである。

【0016】請求項3乃至請求項5の発明に係る避難誘導標識は、取付手段に関するものである。請求項3は、不透明着色樹脂プレートの四隅にビスによる取付穴を穿ったので直接壁面等に取り付け、請求項4は、周縁にビスによる取付環を一体に備える額縁状の化粧枠に不透明*

*着色樹脂プレートを取り付けるようにしたものである。請求項5は、背面に粘着材を介して剥離紙を貼り、所望の箇所に貼付できるようにしたものであり、壁面等に穴を開けずに取り付けることができる。請求項6の発明は、蓄光シート自体を矢印等の避難誘導標識とするもので、蓄光材を含有させた樹脂にて成形するか、或いは蓄光材を含有させた塗料にて樹脂シート表面に塗膜を形成した蓄光シートを標識とし、片面に粘着材層を介して剥離紙にて覆ったもので、取り付けるのに格別の工具が不要で、曲面などにも取り付けることができるのである。

【図面の簡単な説明】

【図1】この発明に係る避難誘導標識の正面図である。

【図2】図1のII-II線断面図である。

【図3】別の実施の形態の正面図である。

【図4】図3のIV-IV線断面図である。

【図5】別の実施の形態を示す要部断面図である。

【図6】この発明のさらに別の実施の形態を示す要部断面図である。

【図7】この発明の避難誘導標識の使用状態を示す概略図である。

【図8】この発明の避難誘導標識の使用状態を示す平面図である。

【図9】この発明に係る避難誘導標識の家屋での使用状態を示す概略図である。

【図10】この発明に係る避難誘導標識の避難扉での使用状態を示す正面図である。

【符号の説明】

S 避難誘導標識

1 サインプレート

11 段部

2 不透明着色樹脂プレート

21 段付き穴

22 段部

3 蓄光シート

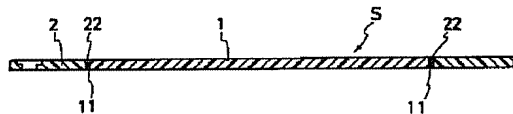
4 化粧枠

41 取付環

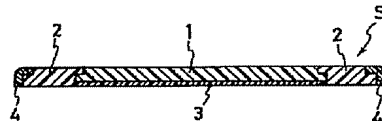
5 粘着材層

6 剥離紙

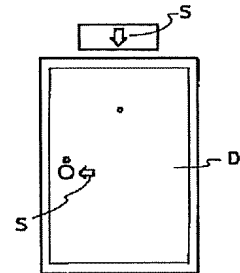
【図2】



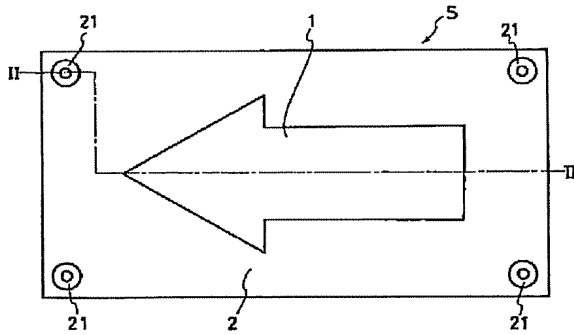
【図5】



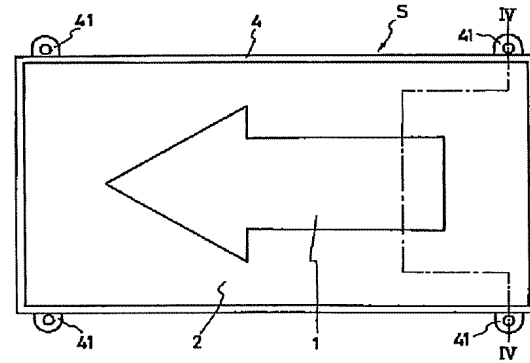
【図9】



【図1】



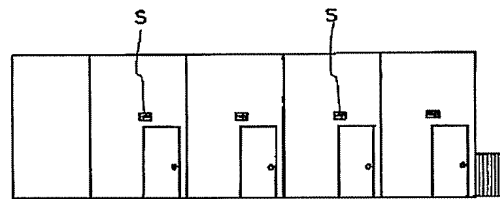
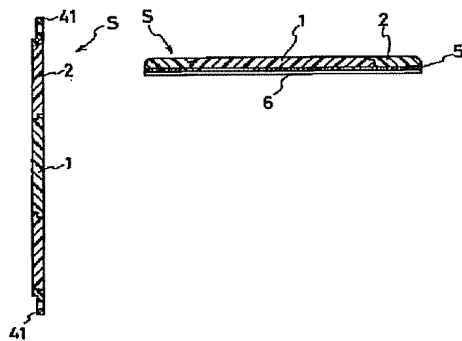
【図3】



【図4】

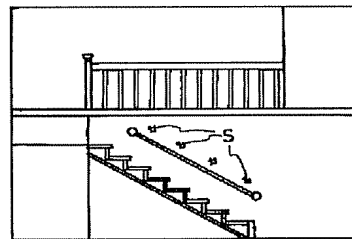
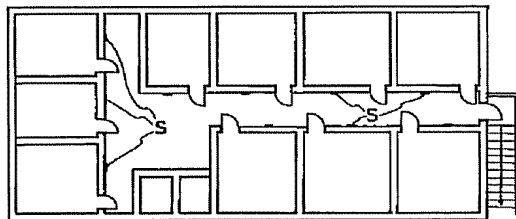
【図6】

【図7】



【図10】

【図8】



フロントページの続き

(72)発明者 武田 智夫
東京都新宿区矢来町128番地

Fターム(参考) 5C096 AA01 AA24 BA04 CA02 CA03
CA04 CA12 CA29 CB01 CB08
CC37 EA03 FA03

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-051632

(43)Date of publication of application : 23.02.2001

(51)Int.Cl.

G09F 13/20

G09F 7/00

G09F 7/18

(21)Application number : 11-222338

(71)Applicant : WATANABE YOSHIHIKO
TAKEDA TOMOO

(22)Date of filing : 05.08.1999

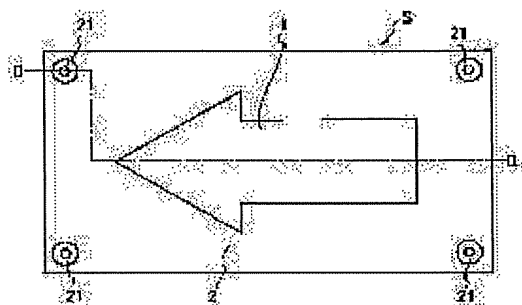
(72)Inventor : WATANABE YOSHIHIKO
TAKEDA TOMOO

(54) REFUGE GUIDE SIGN

(57)Abstract:

PROBLEM TO BE SOLVED: To enable refuge guide without depending upon a light source by molding a transparent resin impregnated with a specific amount of a light storage material to form a sign plate which instructs the direction and place of refuge and fitting and fixing the sign at the time of emergency plate to an opaque colored resin plate to exhibit fluorescent color in the dark.

SOLUTION: The arrow indicating the direction and place of the refuge is molded at the sign plate 1 by molding the transparent resin into which the light storage material is incorporated. The sign plate 1 is fitted and fixed to the opaque colored resin plate of a square shape in external shape, by which the refuge guide sign S is obtained. The sign plate 1 is obtained by mixing the light storage material into the transparent resin, then molding the mixture to a desired shape. The main transparent resin constituting the sign plate 1 is more specifically an ABS resin, AS resin, acrylic resin, styrol resin, etc. The light storage material accumulates light energy and emits light by itself even after external light is removed and is more specifically, G-300M Green (particulate powder of 10 μ m in diameter) in N noctilucence (R).



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision
of rejection]

[Date of requesting appeal against examiner's
decision of rejection]

[Date of extinction of right]

* NOTICES *

JPO and NCIP are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The refuge leading sign which considers as the sign plate which casts the transparence resin which made phosphorescent material contain 10 to 40% by the weight ratio, and directs the direction location of refuge, and is characterized by having inserted this sign plate in the opaque coloring resin plate, and fixing.

[Claim 2] The refuge leading sign according to claim 1 characterized by making it increase photoluminescent by sticking the light storage sheet which formed the paint film in the sheet-plastic front face in the coatings which made phosphorescent material contain on a sign plate rear face.

[Claim 3] The refuge leading sign according to claim 1 or 2 characterized by digging the attaching hole on a screw in the four corners of an opaque resin plate.

[Claim 4] The refuge leading sign according to claim 1 or 2 characterized by attaching the attachment ring according an opaque resin plate to a screw in a periphery at the clock decorative rim of the shape of a frame with which one is equipped.

[Claim 5] The refuge leading sign according to claim 1 or 2 characterized by sticking a releasing paper on a tooth back through adhesion material, and enabling it to stick on a desired part.

[Claim 6] The refuge leading sign which uses as an indicator the light storage sheet which formed the paint film in the resin sheet front face in the coatings which it fabricated [coatings] by the resin which made phosphorescent material contain, or made phosphorescent material contain, and is characterized by covering with a releasing paper through an adhesion material layer on one side.

[Translation done.]

* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] Taking advantage of the description of N noctilucence (trademark) which is the phosphorescent material by which development commercialization was carried out recently, this invention tends to offer the refuge leading sign which demonstrates photoluminescent [vivid], when indoor becomes darkness.

[0002]

[Description of the Prior Art] Since there are many wooden building objects which a fire tends to generate among Japan, the accident in which a valuable human life is lost by the fire is occurring frequently. In order to prevent the victims of an unexpected fire, on the basement of the theater in which many and unspecified men gather, a department store, a hotel, a hotel, an underground center, the enclosure of a subway, a hospital, a government office, a public facility, or a building as a sign of an emergency exit What described the sight of its back which runs and escapes from an outlet is proposed, and it is actually used in many facilities as what is adopted as a lighting fixture which expressed this to the plastics plate and formed lighting in the interior, and shows an emergency exit.

[0003]

[Problem(s) to be Solved by the Invention] Since the conventional emergency light illuminates and displayed from the interior, there was [a possibility that the incoming line and house wiring to the time of interruption of service or a building might stop functioning as disconnecting by the fire and the electrical and electric equipment no longer being supplied]. Even if it did not adopt the emergency lighting method which is switched off and is automatically turned on in emergencies, such as interruption of service, or a current was not always supplied from a main power supply with the approach or battery which have established the power source of an emergency light enough separately, and carry out it, it needed to be made for an emergency light to continue lighting up for a while, in order to avoid this.

[0004]

[Means for Solving the Problem] Then, as refuge induction of the refuge leading sign of this invention was able to be carried out without absorbing and storing the ultraviolet rays from the various floodlights in a building or a facility at the time of usual, demonstrating a fluorescence color in darkness in an emergency, and depending on a power source, it enabled it to save it from a fire or misfortune.

[0005] The refuge leading sign concerning invention of claim 1 is used as the sign plate which casts the transparence resin which made phosphorescent material contain 10 to 40% by the weight ratio, and directs the direction location of refuge, and is characterized by having inserted this sign plate in the opaque coloring resin plate, and fixing. It is characterized by making it the refuge leading sign concerning invention of claim 2 increase photoluminescent by sticking the light storage sheet which formed the sheet-plastic surface paint film in the coatings which made phosphorescent material contain on a sign plate rear face. The refuge leading sign concerning invention of claim 3 is characterized by digging the attaching hole on a screw in the four corners of an opaque resin plate.

[0006] Invention of claim 4 attaches the attachment ring according an opaque resin plate to a screw in a periphery at the clock decorative rim of the shape of a frame with which one is equipped. The refuge leading sign concerning invention of claim 5 sticks a releasing paper on a tooth back through adhesion material, and enables it to stick it on a desired part. Invention according to claim 6 is by what uses the light storage sheet itself as a refuge leading sign, uses as an indicator the light storage sheet which formed the paint film in the sheet-plastic front face in the coatings which made phosphorescent material contain, and covers it with a releasing paper through an adhesion material layer on one side.

[0007]

[Embodiment of the Invention] Hereafter, based on the drawing in which the gestalt of operation of this invention was shown, the configuration of this invention is further explained to a detail. In drawing 1 and drawing 2, the arrow head which casts the transparence resin which made phosphorescent material contain, and directs the direction location of refuge is used as the sign plate 1, and an appearance inserts this sign plate 1 in the rectangular opaque coloring resin plate 2, and it fixes, and considers as the refuge leading sign S. After the sign plate 1 kneads phosphorescent material to transparence resin, it is cast and obtained in a desired form. The main transparence resin which constitutes the sign plate 1 is specifically ABS plastics, an AS resin, acrylic resin, styrol resin, etc. Also after phosphorescent material conserves light energy and removes the light from the outside, it is the thing of the property which emits light itself, and it is phosphorescent material called N noctilucence (trademark) specifically manufactured and sold by current Nemoto& Co., Ltd. Although it was BG-300M blue, next three kinds, i.e., G-300M Green, and V-300M violet that current marketing is done by this firm, having adopted it as the sign plate 1 was taken as G-300M Green of them (powder of the shape of a particle with a diameter of 10micro). In addition, BG-300M blue with the blue color colored as what is used for the important facility in a special location, for example, a hospital, and the exhibition location of gorgeous goods, an art gallery, etc. may be used. Although the content of phosphorescent material should just be the with a - of 10% [of ratios] weight range, it is 20% - 35% preferably, and is the most desirable just over or below 30%. Photoluminescent effectiveness will become low if it is less than 10%, although the path of a building etc. is effective by 10% content of a minimum in the location of a value with the high illuminance of interior lighting. 40% is the technical threshold value on plastic goods molding, and if 40% is exceeded, fertilization of plastics will become expensive difficult technically and it will become scarce at economical efficiency. With the gestalt of implementation of illustration, an evacuation route and refuge opening (emergency exit) shall be directed by making the configuration of the sign plate 1 into a thick arrow head. However, the configuration of an arrow head is good also as a graphic form which designed those who can choose suitably and are conventionally employed as the emergency exit as mentioned above, and who escape.

[0008] The appearance which inserts in the sign plate 1 adds the color as a coloring matter, and a pigment to resin, such as ABS plastics, an AS resin, acrylic resin, and styrol resin, as well as the main transparence resin which constitutes the sign plate 1, and uses as opaque resin the material of the opaque coloring resin plate 2 which makes a rectangle. With the gestalt of operation, it should be colored red. However, suitably, color is selectable and may adopt the assignment color in alignment with the request of choice of a user. It is because it is not made to usually pass over this opaque coloring resin plate 2 for existence of the sign plate 1 to be sometimes conspicuous and color cannot be checked all over darkness. By the phosphorescent material which the sign plate 1 was made to contain, the ultraviolet rays from lighting fitting are absorbed, light energy is accumulated, and the sign plate 1 demonstrates a fluorescence color in darkness in an emergency, and a refuge person can be made to be able to recognize the route to an emergency exit, it can lead, and induction guidance of the case of a ground floor can be carried out safely at the emergency door opened out of direct, or the emergency door which follows a fire escape above a first floor.

[0009] It attaches by digging the hole 21 with a stage in the four corners of the opaque coloring resin plate 2, and thrusting into a wall surface etc. on a screw. While forming in the periphery of the sign plate 1 the step 11 which is pressing hard, a step 22 is formed in the rear-face side

periphery of the secret passage in which the sign plate 1 of the opaque resin plate 2 is inserted, fusion of the step 11 of the periphery of the sign plate 1 is carried out to a step 22 from the background of an opaque coloring resin plate, it is inserted in, it considers as the almost same thickness, and adhesives are applied to a stair-like joint, and it is made to tie to one.

[0010] Although the refuge leading sign S should be attached in the direct wall surface etc. on the screw etc. until now, you may make it attach the attachment ring 41 according the opaque coloring resin plate 2 to a screw in a periphery separately at the metal clock decorative rim 4 of the shape of a frame with which one is equipped, as shown in drawing 3 and drawing 4. This clock decorative rim 4 should carry out chromium plating processing for the front face by iron. The attachment ring 41 shall be constituted in one and attached in a wall surface etc. on a screw. The material of a clock decorative rim 4 is not restricted to metal, but plating processing of it should be carried out, or it can choose suitably wooden, the product made from an artificial stone, a pseudo-wooden, etc. as the frame which carried out resin molding. The lightness in the inside of the darkness of the fluorescence color of the sign plate 1 is raised, and it is made to make the light storage sheet 3 which formed the plastics surface paint film in the rear face of the sign plate 1 in the coatings which made phosphorescent material contain have stuck so that it may increase photoluminescent as shown in drawing 5. Although this light storage sheet 3 was made from the resin of ABS plastics equipped with the thickness of 0.2–0.3mm, an AS resin, acrylic resin, styrol resin, and others and processed it in the shape of a sheet, it comes to form a light storage paint film in one side. the coating which made phosphorescent material contain — silk printing — or a light storage paint film is formed in spray painting etc.

[0011] Although it becomes cost quantity a little by sticking the light storage sheet 3 on sign plate 1 rear face, the visibility in darkness will increase by increasing photoluminescent. Although not illustrated, omission [plate / 2 / of the sign plate 1 / opaque coloring resin] can be prevented by sticking the periphery of this light storage sheet 3 ranging over the opaque coloring resin plate 2 from sign plate 1 rear face. If visibility is getting lower especially with the smoke in case of a fire, the dust in case of an earthquake, etc., induction in a much more safe direction will be attained by increasing photoluminescent. Since a human life is concerned, even if it is some manufacture cost quantity, maintenance will be unnecessary and the economical efficiency as total will be secured.

[0012] Although a screw shall be thrust into attaching the refuge leading sign S until now, you may make it stick with adhesives so that it may show drawing 6. Although combined, in case [of the sign plate 1 and the opaque coloring resin plate 2] it is made to cover at the rear face with a releasing paper 6 through the adhesion material layer 5 and actually attaches in it, a releasing paper 6 is removed and it is made to stick on a desired part. After sticking a double faced adhesive tape on a periphery etc. uniformly [remove the releasing paper of one side and] in fact at four corners and a pan at the rear face of the sign plate 1 and the opaque coloring resin plate 2, the releasing paper of one side is removed in a desired location, and you may make it already attach it in it. In addition, you may make it form the adhesion material layer 5 and a releasing paper 6 in this rear face as what stuck the light storage sheet 3 on the rear face of the sign plate 1.

[0013] Furthermore, since it is sufficient if attached in a wall surface etc. as a refuge leading sign S, although the part which serves as an indicator in practice is used as the plate equipped with rigidity by old explanation, if a function can be demonstrated, it is good [photoluminescent / in darkness / is enough, and] also as what was equipped with flexibility by closing in. 10% – 40% of phosphorescent material is kneaded by the weight ratio to the above-mentioned transparency resin, a sheet is formed, and it cuts by the arrow head, and is good also as a refuge leading sign S as it is. or a light storage paint film can be formed in one side of a resin sheet which turns into a front face at least (the above-mentioned — the same — silk printing and spray painting), and it can cut by an arrow head etc., and can also consider as the refuge leading sign S. Even if it attaches such a refuge leading sign S in a wall surface etc., it becomes almost flat-tapped and is not projecting, but installation will apply adhesives to a rear face, or can attach them easily with means, such as a double faced adhesive tape.

[0014] Drawing 7 is the refuge leading sign S stuck on the wall surface of the passage in

facilities which stay, such as a hotel, a lodge, and a hospital. This number will cope with it suitably according to the scale of a facility etc. In addition, since a passage is full, and smoke may become a crawl and may take refuge, it is desirable to arrange to some extent also in the location near a floor line. Drawing 8 shows signs that many refuge leading signs S are attached in the wall of a passage so that it may guide to a fire escape with a top view. Although not illustrated in drawing 7 and drawing 8, light energy is stored in the sign plate 1, the light storage sheet 3, etc. from lighting fitting in a passage and a path, in an emergency, the refuge leading sign S will hold the decay characteristic for a long time, and, as for the refuge leading sign S, a function can be demonstrated according to the color of phosphorescent material original. Drawing 9 is what combined the refuge leading sign S concerning this invention when the emergency light by a fluorescent lamp etc. was arranged in the upper part of the extraordinary door D, and, as for the refuge leading sign S, considering as a sheet-like thing is desirable. Moreover, even if it goes to the knob of a door, the point of the arrow head of a refuge leading sign is turned, and it can be made to perform prompt refuge. Drawing 10 is what has arranged the arrow-head-like refuge leading sign S along the inclination of a stairway, and this is effective, when the part of a stairway can be checked all over darkness and fall accident is prevented.

[0015]

[Effect of the Invention] It is what used the refuge leading sign concerning invention of claim 1 as the sign plate which directs the direction location of refuge by the transparence resin which made phosphorescent material contain, inserted this sign plate in the opaque coloring resin plate, and was fixed. When the light energy accumulated with sunlight, indoor lighting, the lighting of a passage, etc. becomes indoor according to a fire, an earthquake, etc. of Nighttime and the interior of a room becomes darkness, the fluorescence color doubled with the sign (gestalt) will appear, and the whereabouts of the refuge direction or refuge opening (emergency exit) can be guided. Since the refuge leading sign concerning invention of claim 2 stuck the light storage sheet on the sign plate rear face, it can tell the refuge person the refuge direction certainly by making it increase photoluminescent further.

[0016] The refuge leading sign concerning invention of claim 3 thru/or claim 5 is related with an attachment means. Since claim 3 dug the attaching hole on a screw in the four corners of an opaque coloring resin plate, it is attached in a direct wall surface etc., and claim 4 attaches an opaque coloring resin plate in a periphery at the clock decorative rim of the shape of a frame which equips one with the attachment ring on a screw. Claim 5 sticks a releasing paper on a tooth back through adhesion material, enables it to stick it on a desired part, and can be attached, without making a hole in a wall surface etc. It is what was covered with the releasing paper through the adhesion material layer on one side, invention of claim 6 uses as an indicator the light-storage sheet which formed the paint film in the resin sheet front face in the coatings which the light-storage sheet itself is used [coatings] as refuge leading signs, such as an arrow head, and it fabricated [coatings] by the resin which made phosphorescent material contain, or made phosphorescent material contain, although attached, its tool according to rank is unnecessary, and it can attach it in a curved surface etc.

.....
[Translation done.]

* NOTICES *

JPO and NCIP I are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.***** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] Front view ***** of the refuge leading sign concerning this invention.

[Drawing 2] It is the II-II line sectional view of drawing 1 .

[Drawing 3] It is the front view of the gestalt of another operation.

[Drawing 4] It is the IV-IV line sectional view of drawing 3 .

[Drawing 5] It is the important section sectional view showing the gestalt of another operation.

[Drawing 6] It is the important section sectional view showing the gestalt of still more nearly another implementation of this invention.

[Drawing 7] It is the schematic diagram showing the busy condition of the refuge leading sign of this invention.

[Drawing 8] It is the top view showing the busy condition of the refuge mailing indicator of this invention.

[Drawing 9] It is the schematic diagram showing the busy condition in the house of the refuge leading sign concerning this invention.

[Drawing 10] It is the front view showing the busy condition in the refuge door of the refuge leading sign concerning this invention.

[Description of Notations]

S Refuge leading sign

1 Sign Plate

11 Step

2 Opaque Coloring Resin Plate

21 Hole with Stage

22 Step

3 Light Storage Sheet

4 Clock Decorative Rim

41 Attachment Ring

5 Adhesion Material Layer

6 Releasing Paper

[Translation done.]

* NOTICES *

JPO and NCIP I are not responsible for any damages caused by the use of this translation.

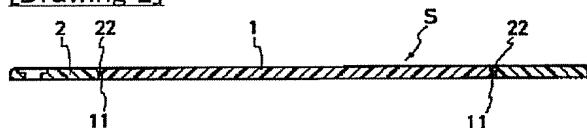
1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.

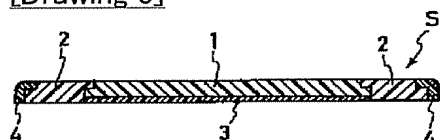
3.In the drawings, any words are not translated.

DRAWINGS

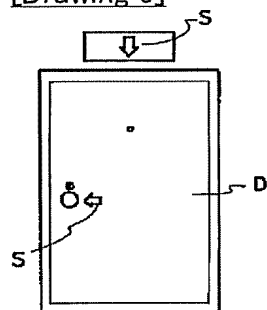
[Drawing 2]



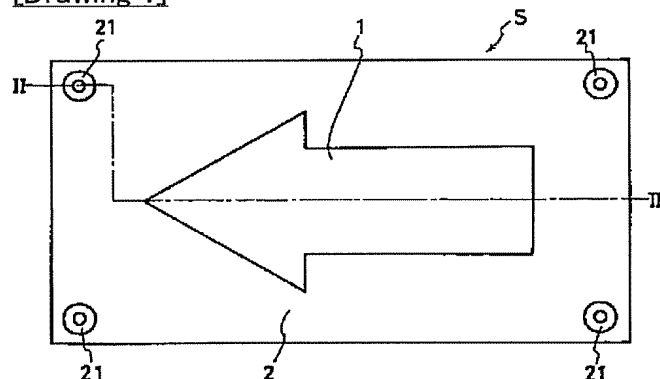
[Drawing 5]



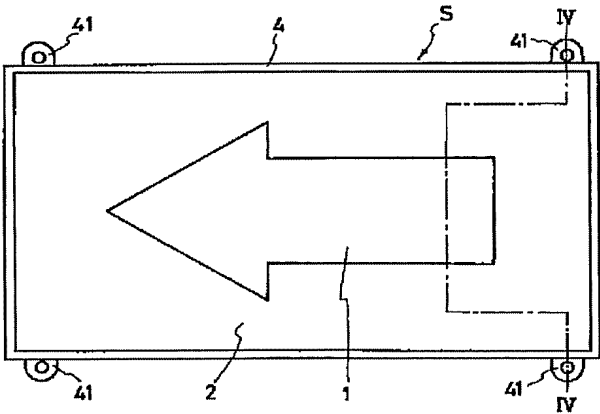
[Drawing 9]



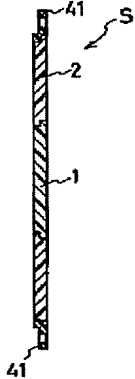
[Drawing 1]



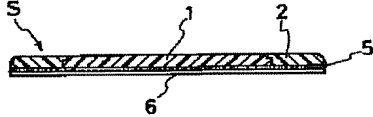
[Drawing 3]



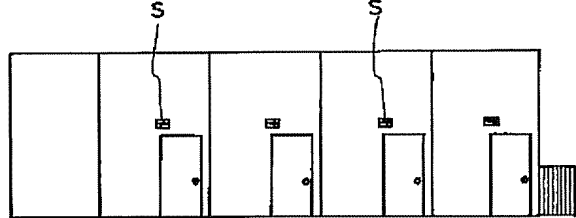
[Drawing 4]



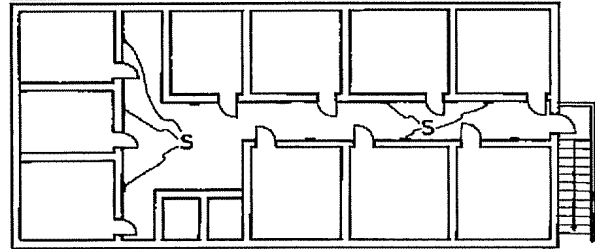
[Drawing 6]



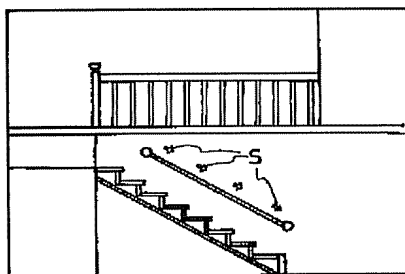
[Drawing 7]



[Drawing 8]



[Drawing 10]



[Translation done.]